

PATENT  
USSN 09/432,503  
015389-002611US; 018/063c

CLAIM AMENDMENTS

1 to 40. *Cancelled*

41. *(Currently amended)* A method of increasing the proliferative capacity of a mammalian cell, comprising introducing into the cell *in vitro* a recombinant polynucleotide that encodes a telomerase reverse transcriptase protein in ~~SEQ. ID NO:2~~ comprising SEQ. ID NO:2, or fragment thereof having telomerase catalytic activity when complexed with a telomerase RNA, whereby introducing the recombinant polynucleotide into the cell increases the proliferative capacity of the cell.
42. *(Previously presented)* The method of claim 41, wherein the cell is a human cell.
43. *(Currently amended)* The method of claim 41, further comprising selecting ~~the cell from other cells because it~~ a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.
44. *(Previously presented)* The method of claim 43, wherein the cell is a human cell.
45. *(Previously presented)* The method of claim 41, wherein the polynucleotide encodes a full-length, naturally occurring telomerase reverse transcriptase.
46. *(Previously presented)* The method of claim 45, wherein the cell is a human cell.
47. *(Currently amended)* The method of claim 45, further comprising selecting ~~the cell from other cells because it~~ a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.
48. *(Currently amended)* The method of claim 41, wherein the polynucleotide comprises the telomerase reverse transcriptase encoding sequence in ~~SEQ. ID NO:1~~ of SEQ. ID NO:1.
49. *(Currently amended)* The method of claim 48, wherein the cell is a human cell.
50. *(Currently amended)* The method of claim 48, further comprising selecting ~~the cell from other cells because it~~ a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

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51. *(Currently amended)* The method of claim 50, wherein the cell is a human cell.
52. *(Previously presented)* The method of claim 41, wherein the recombinant polynucleotide is an expression vector.
53. *(Currently amended)* The method of claim 52, wherein the expression vector is an SV40 virus expression vector, an EBV expression vector, a herpesvirus expression vector, or a vaccinia virus expression vector.
54. *(Currently amended)* The method of claim 52, wherein the expression vector is a retrovirus expression vector.
55. *(Currently amended)* The method of claim 52, wherein the expression vector is an adenovirus expression vector.
56. *(Currently amended)* The method of claim 52, further comprising selecting ~~the cell from other cells because it~~ a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.
57. *(Currently amended)* The method of claim 52, wherein the cell is a human cell.

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58. *(Currently amended)*  
A method of increasing the proliferative capacity of a mammalian cell, comprising introducing into the cell a recombinant polynucleotide that encodes a telomerase reverse transcriptase protein in ~~SEQ. ID NO:2~~ comprising SEQ. ID NO:2, or fragment thereof having telomerase catalytic activity when complexed with a telomerase RNA,  
whereby introducing the recombinant polynucleotide into the cell increases the proliferative capacity of the cell.
59. *(Previously presented)* The method of claim 58, wherein the cell is a human cell.
60. *(Previously presented)* The method of claim 58, wherein the polynucleotide encodes a full-length, naturally occurring telomerase reverse transcriptase.
61. *(Currently amended)* The method of claim 58, wherein the polynucleotide comprises the telomerase reverse transcriptase encoding sequence in ~~SEQ. ID NO:1~~ of SEQ. ID NO:1.
62. *(Previously presented)* The method of claim 58, wherein the recombinant polynucleotide is an expression vector.
63. *(Previously presented)* The method of claim 62, wherein the expression vector is a retrovirus expression vector.
64. *(Previously presented)* The method of claim 62, wherein the expression vector is an adenovirus expression vector.
65. *(Previously presented)* The method of claim 62, wherein the cell is an epithelial cell.
66. *(Previously presented)* The method of claim 62, wherein the cell is a keratinocyte.
67. *(Previously presented)* The method of claim 62, wherein the cell is a hair matrix or hair shaft cell.
68. *(Previously presented)* The method of claim 62, wherein the cell is a hepatocyte.
69. *(Previously presented)* The method of claim 62, wherein the cell is an endothelial cell.
70. *(Previously presented)* The method of claim 62, wherein the cell is a cell of the ciliary epithelium of the eye.

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71. *(Previously presented)* The method of claim 62, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.
72. *(Previously presented)* The method of claim 62, wherein the cell is a heart cell.
73. *(Previously presented)* The method of claim 62, wherein the cell is a lymphocyte.
74. *(Previously presented)* The method of claim 63, wherein the cell is an epithelial cell.
75. *(Previously presented)* The method of claim 63, wherein the cell is a keratinocyte.
76. *(Previously presented)* The method of claim 63, wherein the cell is a hair matrix or hair shaft cell.
77. *(Previously presented)* The method of claim 63, wherein the cell is a hepatocyte.
78. *(Previously presented)* The method of claim 63, wherein the cell is an endothelial cell.
79. *(Previously presented)* The method of claim 63, wherein the cell is a cell of the ciliary epithelium of the eye.
80. *(Previously presented)* The method of claim 63, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.
81. *(Previously presented)* The method of claim 63, wherein the cell is a heart cell.
82. *(Previously presented)* The method of claim 63, wherein the cell is a lymphocyte.
83. *(Previously presented)* The method of claim 64, wherein the cell is an epithelial cell.
84. *(Previously presented)* The method of claim 64, wherein the cell is a keratinocyte.
85. *(Previously presented)* The method of claim 64, wherein the cell is a hair matrix or hair shaft cell.
86. *(Previously presented)* The method of claim 64, wherein the cell is a hepatocyte.
87. *(Previously presented)* The method of claim 64, wherein the cell is an endothelial cell.

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88. *(Previously presented)* The method of claim 64, wherein the cell is a cell of the ciliary epithelium of the eye.
89. *(Previously presented)* The method of claim 64, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.
90. *(Previously presented)* The method of claim 64, wherein the cell is a heart cell.
91. *(Previously presented)* The method of claim 64, wherein the cell is a lymphocyte.